

May 16, 1989

Terry R. Strong, Chief
Office of Radiation Protection
Department of Social and Health Services
Mail Stop LF-13
Olympia, Washington 98504

Dear Mr. Strong:

This is in response to your November 23, 1988 letter requesting technical assistance on the irradiator sources in the Washington State University reactor pool. We have solicited comments from our Office of Nuclear Material Safety and Safeguards (NMSS) and Office of Nuclear Reactor Regulation (NRR). Enclosures 1 and 2 are their comments.

In brief summary, the possession and use of the irradiator sources are under the jurisdiction of the State of Washington. However, because this by-product material is located in a research reactor pool and use of sources may affect the safe operation of the research reactor, the reactor's technical specifications should contain governing limiting conditions of operation (LCO) and surveillance requirements. This is analogous to controlling the use of explosives, chemicals, or special nuclear material when introduced into the reactor as experiments. Issues to be considered in the technical specifications include location and uses (experiment design and approval) of the source, cooling of the source, and detection of and response to source failure. The NRC Office of Nuclear Reactor Regulation will contact and work with Washington State University to amend their NRC Facility Operating License.

The irradiator sources should be evaluated as Category III irradiator sources with additional concerns (outlined in Enclosure 2) due to the age of the sources. However, it appears that the Washington State University license only authorizes the possession and use of the Oak Ridge National Laboratory (ORNL) and Idaho Nuclear Corporation sources.

If you have any questions, please contact Don Mackenzie at 301-492-0328.

Sincerely,

original signed by Vandy L. Miller

Vandy L. Miller, Assistant Director
for State Agreements Program
State, Local and Indian Tribe Programs

Enclosures:
As stated

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
May 8, 1989

ENCLOSURE 2

MEMORANDUM FOR: Vandy L. Miller, Assistant Director
for State Agreements Program
State, Local and Indian Tribe Programs

FROM: Charles L. Miller, Director
Standardization and Non-Power
Reactor Project Directorate
Division of Reactor Projects - III, IV,
V and Special Projects
Office of Nuclear Reactor Regulation

SUBJECT: STATE LICENSED BYPRODUCT MATERIAL IN A RESEARCH REACTOR POOL

This is in response to your December 14, 1988 memorandum requesting our assistance in determining jurisdiction over cobalt-60 sources which are stored and used in the pool of the research reactor at Washington State University (Docket No. 50-27).

In memorandums from Dennis M. Crutchfield dated March 8, 1988 and August 18, 1988 (enclosed) concerning regulatory responsibility for byproduct materials in non-power reactors, byproduct material within a non-power reactor facility will generally be assumed to be possessed under the reactor license, unless there is prior documentation approved by NRC, or some other clear demonstration that the licensed material is covered under another license. The State of Washington asks if they should continue to have jurisdiction over the cobalt sources. Because the State of Washington clearly has jurisdiction over the material at the present time, they should continue to have jurisdiction. In our Safety Evaluation Report (NUREG-0911, issued in 1982) written for the renewal of the Washington State University research reactor operating license, Section 12.3.2 discusses a 3000 curie cobalt-60 source as being located in the reactor pool but possessed under the authority of the State of Washington.

However, because this byproduct material is located in a research reactor pool and use of sources may affect the safe operation of the research reactor, the reactor's technical specifications should contain governing limiting conditions of operation (LCO) and surveillance requirements. This is analogous to controlling the use of explosives, chemicals, or special nuclear material when introduced into the reactor as experiments. Issues to be considered in the technical specifications include location and uses (experiment design and approval) of the source, cooling of the source, and detection of and response to source failure.

CONTACT:
A. Adams, NRR/PDSNP
472-1111

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Mr. Vandy L. Miller

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May 8, 1989

The requirement that the source meets the current minimum standards for fabrication should be addressed by the byproduct license.

If this approach is acceptable, my staff will contact and work with Washington State to amend the Facility Operating License.

for William O. Long
Charles L. Miller, Director
Standardization and Non-Power
Reactor Project Directorate
Division: Reactor Projects - III, IV,
V and Special Projects
Office of Nuclear Reactor Regulation

Enclosure:
As stated